

The opinion in support of the decision being entered today was *not* written for publication and is *not* binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* YUDONG SUN

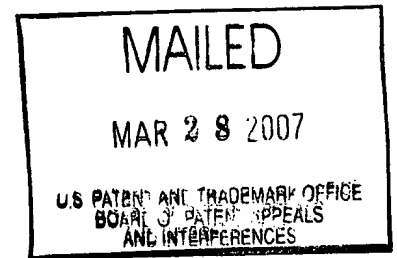
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Appeal 2006-3276  
Application 09/512,560  
Technology Center 2100

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Decided: March 28, 2007

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Before KENNETH W. HAIRSTON, JOSEPH F. RUGGIERO, and  
ALLEN R. MACDONALD, *Administrative Patent Judges*.

MACDONALD, *Administrative Patent Judge*.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134(a) from the Examiner's rejection of claims 1-30.

THE INVENTION

The disclosed invention relates generally to techniques for processing a hypertext markup language (HTML) document. More particularly, the

disclosed invention relates to a system and method for server-side HTML customization based on style sheets and a target device (Specification 1).

Representative claims 11 and 21 are illustrative:

11. A system for customizing a requested document for sending to a target device comprising at least one hypertext markup language (HTML) element, the system comprising:

a parsing module configured to parse the document to generate therefrom a corresponding document object model (DOM) including at least one object;

a style sheet access module configured to obtain a style sheet including at least one rule directed to the target device;

a style sheet application module configured to apply the at least one rule of the style sheet to the DOM; and

a flattening module configured to flatten the DOM to generate therefrom a corresponding transformed document suitable for display by the target device.

21. An article of manufacture comprising a program storage medium readable by a processor and embodying one or more instructions executable by the processor to perform a computer-implemented method for customizing a requested document for sending to a target device comprising at least one hypertext markup language (HTML) element, the method comprising:

parsing the document to generate therefrom a corresponding document object model (DOM) including at least one object;

obtaining a style sheet including at least one rule directed to the target device;

applying the at least one rule of the style sheet to the DOM; and  
flattening the DOM to generate therefrom a corresponding  
transformed document suitable for display by the target device.

### THE REFERENCES

The Examiner relies upon the following references as evidence of  
unpatentability:

W3C, *Cascading Style Sheets, level 2 CSS2 Specification*, May 12, 1998,  
<http://www.w3.org/TR/1998/REC-CSS2-19980512>.

Traugher	WO 98/14896	Apr. 9, 1998
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The Examiner cites the following reference as extrinsic evidence that is not  
prior art (Answer 3):

Matt Rotter, *Get started With Cascading Style Sheets*, Sep. 29, 2003  
<http://builder.com/5100-31-5074849.html>, 1-2.

### THE REJECTIONS

The following rejections are on appeal before us:

1. Claim 11 stands rejected under 35 U.S.C. § 101 as being directed  
to non-statutory subject matter.
2. Claims 1-30 stand rejected under 35 U.S.C. § 103(a) as being  
unpatentable over the teachings of W3C in view of Traugher.

Rather than repeat the arguments of Appellant or the Examiner, we  
make reference to the Briefs and the Answer for the respective details  
thereof.

## OPINION

Only those arguments actually made by Appellant have been considered in this decision. It is our view, after consideration of the record before us, that the evidence relied upon supports the Examiner's rejection of the claims on appeal. Accordingly, we affirm.

### Claim 11 (§ 101 issue)

We consider first the Examiner's rejection of claim 11 as being directed to non-statutory subject matter.

Appellant argues claim 11 is directed to statutory subject matter because it is directed to a system that transforms data producing a "useful, concrete and tangible result," quoting *State Street Bank & Trust Co. v. Signature Financial Group, Inc.*, 149 F.3d 1368, 1373, 47 USPQ2d 1596, 1601 (Fed. Cir. 1998) (Br. 10-13).

We note *State Street* held:

transformation of data ... by a machine through a series of mathematical calculations into a final share price, constitutes a practical application of a mathematical algorithm, formula, or calculation, because it produces "a useful, concrete and tangible result."

(*State Street*, 149 F.3d at 1373, 47 USPQ2d at 1601 (*quoting In re Alappat*, 33 F.3d 1526, 1544, 31 USPQ2d 1545, 1557 (Fed. Cir. 1994), "This [claimed invention] is not a disembodied mathematical concept which may be characterized as an 'abstract idea,' but rather a specific machine to produce a useful, concrete, and tangible result." )).

In *State Street*, the Court of Appeals for the Federal Circuit found that a *machine* that transformed data into a final share price produced a useful,

concrete and tangible result that constitutes patentable subject matter (*id.*). In the instant case, we find Appellant's Specification discloses embodiments consisting of *software modules and/or electronic signals*, without the requisite *machine*:

Throughout the following description, various system components are referred to as "modules." In certain embodiments, the modules *may be implemented as software*, hardware, firmware, or any combination thereof.

For example, as used herein, a module may include any type of computer instruction or computer executable code located within a memory device and/or transmitted as *electronic signals* over a system bus or network. An identified module may include, for instance, one or more physical or logical blocks of computer instructions, which may be embodied within one or more objects, procedures, functions, or the like.

(Specification, 10, ll. 10-18, emphasis added)

With respect to the instant disclosed *electronic signal* embodiment, we note that claims that recite nothing but the physical characteristics of a form of energy, such as a frequency, voltage, or the strength of a magnetic field, define energy or magnetism, per se, and as such are considered nonstatutory natural phenomena. *O'Reilly v. Morse*, 56 U.S. 62, 112-14 (1853). To the extent that the instant claimed "system" is embodied as a software *process*, we note that the Court of Appeals for the Federal Circuit has further determined that if a claimed process manipulates only numbers, abstract concepts or ideas, or *signals* representing any of the foregoing, the claim is not being applied to appropriate subject matter. *In re Schrader*, 22

F.3d 290, 294-95, 30 USPQ2d 1455, 1458-59 (Fed. Cir. 1994) (emphasis added).

In the instant case, we note that claim 11 recites a “system” and a statement of intended purpose in the preamble (i.e., *sending* a document to a target device). In particular, we find the recited “target device” (as claimed) *performs no transformation of data*. Thus, claim 11 fails to affirmatively recite a *machine* that employs a mathematical algorithm to transform data. Therefore, we find the scope of the claimed “system” broadly encompasses an embodiment comprised of software, per se. We further find the scope of the claimed “system” broadly encompasses an embodiment where data is transmitted as *electronic signals* to a target device where the target device itself performs no transformation of data. Accordingly, because Appellant has disclosed embodiments directed to *software*, per se, and *electromagnetic signals*, we will sustain the Examiner’s rejection of claim 11 as being directed to nonstatutory subject matter.

#### Claims 1-30

We consider next the Examiner’s rejection of claims 1-30 as being unpatentable over the teachings of W3C in view of Traughber. Since Appellant’s arguments with respect to this rejection have treated these claims as a single group which stand or fall together, we will select independent claim 21 as the representative claim for this rejection. *See* 37 C.F.R. § 41.37(c)(1)(vii)(2004).

Appellant argues that an artisan would not have been motivated to modify W3C with Traughber because Traughber’s general processing of

web pages on a server is not relevant to the application of style sheets, as style sheets are a specific technique for dynamically customizing a web page for different display devices (Br. 18).

The Examiner disagrees. The Examiner notes that Traughber teaches server side document processing (Fig. 2, i.e., server “CPU 32”) for a requesting client browser (Fig. 2, i.e., “browser 30”). The Examiner asserts that Traughber teaches the enhanced capability of transferring the document customization overhead from the client side to the server side (Fig. 2, p. 3, ll. 17-19). The Examiner maintains that Traughber teaches the simple benefit of shifting the processing load from the client to the server whereby the W3C user agent is spared the computer resources otherwise needed to implement the style sheet on the client side (Answer 10-12).

After carefully considering all of the evidence before us, we do not agree with Appellant’s assertion that Traughber’s processing of web pages on a server is not relevant to the application of style sheets. In particular we note Traughber uses *templates* on the server side for dynamically customizing and formatting a web page for display on the client. Traughber teaches templates are parsed by “processing engine 38” in an iterative fashion whereby nested HTML elements are detected and associated processing resources are invoked (Traughber, p. 4, ll. 25-32, p. 5, ll. 24-30, Fig. 5). Retrieved or generated information is embedded into a new dynamically created web page as a result of Traughber’s iterative template-based processing (Traughber, p. 5, ll. 1-6, 16-23). Thus, we find Traughber’s teaching of using templates for formatting dynamic HTML on the server side suggests the instant claimed “style sheets” that are processed

on the server side. Because we find that Traughber performs the function of generating a transformed document suitable for display by a target device, we agree with the Examiner that an artisan having knowledge of W3C would have reasonably been motivated to look to Traughber for the processing efficiencies that would have been obtained by shifting the document customization processing to the server side.

Furthermore, our reviewing court has recently reaffirmed that:

an implicit motivation to combine exists not only when a suggestion may be gleaned from the prior art as a whole, but when the “improvement” is technology-independent and the combination of references results in a product or process that is more desirable, for example because it is stronger, cheaper, cleaner, faster, lighter, smaller, more durable, or more efficient . . . . In such situations, the proper question is whether the ordinary artisan possesses knowledge and skills rendering him *capable* of combining the prior art references.

*DyStar Textilfarben GmbH & Co. Deutschland KG v. C.H. Patrick Co.*, 464 F.3d 1356, 1368, 80 USPQ2d 1641, 1651 (Fed. Cir. 2006) (emphasis in original). In the instant case, we find the ordinary artisan who possessed knowledge and skills relating to the W3C Cascading Style Sheets (CSS2) specification at the time of the invention would have been *capable of* combining W3C and Traughber in the manner suggested by the Examiner for the purpose of realizing a faster and more efficient system that would have resulted from such server-side document processing.

Appellant further argues that neither W3C nor Traughber teaches or suggests the following limitations (Br. 16):

1. applying at least one rule of the style sheet to the Document Object Model (DOM) in a document server.



2. flattening the DOM to generate a corresponding transformed document suitable for display by the target device.

The Examiner disagrees. The Examiner acknowledges that W3C does not teach document customization being performed on the server. However, the Examiner asserts that Traughber teaches server-side document customization was notoriously well known in the art at the time of the invention. The Examiner acknowledges that Traughber does not specifically teach the use of W3C style sheets in the document customization process. However, the Examiner notes that the W3C specification has been relied upon for its teaching of the claimed style sheets (Answer 9).

With respect to the limitation of flattening the Document Object Model, the Examiner acknowledges that W3C does not specifically teach “flattening” a document object model tree. However the Examiner points out that W3C teaches taking the annotated document model tree and generating a formatting structure, where the formatting structure is then transferred to the target medium for display (W3C, *see* ¶ 2.3, “The CSS2 processing model,” i.e., steps 5 & 6). The Examiner notes that W3C step 5 teaches generating a formatting structure from the annotated document tree, and W3C step 6 teaches transferring the formatting structure to the target medium (*id.*). The Examiner considers W3C’s two-step process to be equivalent to the language of the claim that requires flattening the DOM to generate a corresponding transformed document suitable for display by the target device. The Examiner further notes that such equivalence was determined based on Appellant’s own definition of “flattening” (Answer 9-10).

The Examiner points out that Appellant has defined flattening as a process of converting the DOM back into an equivalent document including one or more elements, wherein the resulting document is designated as “transformed” because the style sheet application will be reflected in the elements of the transformed document (Specification 16, ll. 5-20). Thus, the Examiner finds that W3C teaches taking the annotated DOM (i.e., “[f]rom the annotated document tree”) and “flattening” it (i.e., “generating a formatting structure”) to generate a corresponding transformed document (W3C, ¶ 2.3). Because W3C’s formatting structure is utilized for displaying the original source document after the application of the style sheets, the Examiner concludes the formatting structure thus reflects the change in the source document elements as designated by the flattening process (*see* W3C, ¶ 2.3, steps 3 and 4). Lastly, the Examiner point outs that Appellant’s own Specification explicitly discloses that “[t]echniques for flattening a DOM 62 *are well known in the art*” (Specification 16, ll. 17- 18, emphasis added) (Answer 9-10).

We will sustain the Examiner’s rejection of representative claim 21 for essentially the same reasons argued by the Examiner in the Answer. With respect to Appellant’s first argument that the combination of W3C and Traugher does not teach or suggest applying at least one rule of the style sheet to the DOM in a document server, we agree with the Examiner that Traugher provides evidence that server-side document customization (i.e., generating dynamic HTML using templates) was notoriously well known in the art at the time of the invention. We also note the Examiner has relied upon the W3C specification for its teaching of the claimed “style sheet” and

associated rules directed to a target device (Answer 9). We note that our reviewing court has determined that one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. *In re Merck & Co., Inc.*, 800 F.2d 1091, 1097, 231 USPQ 375, 380 (Fed. Cir. 1986). In the instant case, the Examiner's rejection is based upon the *combination* of the W3C and Traughber references. Thus, we find the Examiner's proffered combination of W3C and Traughber suggests applying at least one rule of the style sheet to the DOM in a document server.

With respect to Appellant's second argument that the combination of W3C and Traughber does not teach or suggest flattening the DOM to generate a corresponding transformed document suitable for display by the target device, we particularly note Appellant's admission in the Specification (as pointed out by the Examiner) that techniques for flattening a DOM *are well known in the art* (Specification 16, ll. 17- 18). In addition, we note Appellant has not claimed the argued limitation of "dynamically customizing a web page for different display devices" (Br. 18). Indeed, the language of each independent claim 1, 11, and 21 merely requires generating a transformed document *suitable for display by a target device*.

For at least the aforementioned reasons, we find the Examiner's proffered combination of W3C and Traughber teaches or suggests all that is claimed. Accordingly, we will sustain the Examiner's rejection of representative claim 21 as being unpatentable over W3C in view of Traughber.

We note that Appellant has not presented any substantive arguments directed separately to the patentability of dependent claims 1-20 and 22-30. Pursuant to 37 C.F.R. § 41.37(c)(1)(vii)(2004), we have decided the appeal with respect to claims 1-20 and 22-30 on the basis of the selected claim alone. Therefore, we will sustain the Examiner's rejection of these claims as being unpatentable over W3C in view of Traugher for the same reasons discussed *supra* with respect to representative claim 21.

#### DECISION

In summary, we have sustained the Examiner's rejection of all claims on appeal. Therefore, the decision of the Examiner rejecting claims 1-30 is affirmed.

In the event prosecution is reopened in this application, we direct the Examiner's attention to U.S. Pat. 6,925,595 to Whitledge et al. We note that Whitledge discloses a system directed to content conversion of electronic data using data mining (Abstract). In one embodiment, Whitledge discloses the data mining conversion operations allow a user to extract only desired display information displayed from a hypertext element and convert the display information into a format different than that defined for the original electronic document. The converted display information is appropriate for a user device such as hand-held, wireless phone, personal digital assistant, or other device (*id.*). In particular, Whitledge discloses a "document object model" and a "content converter 16" that performs such format conversions on the server side (*see e.g.*, Fig. 1 and col. 4, l. 58 through col. 5, l. 17). In addition, we note that U.S. Pat. 6,263,332 to Nasr et al. performs similar server-side transformations directed to the limitations of client-side browsers

Appeal 2006-3276  
Application 09/512,560

(*see e.g.*, Abstract and col. 11, ll. 16-31). We note that both Whitledge and Nasr are prior art with respect to the instant application on appeal.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

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